

## REMARKS

In this office action the Examiner rejected claims 1,4, 5, 14, and 15 under 35 U.S.C. 103(a) as being unpatentable over US Patent 5566795 to Barefoot in view of US Patent 3937295 to Wright. To support the rejection the Examiner stated,

"Re: claims 1, 14, and 15. Barefoot shows in figure 1,4, and 7 an apparatus engageable with a brake assembly for automatically applying at least one brake means secured to a railway vehicle with the brake assembly, the apparatus comprising: an operating means 60,62,64,76,72,78,80 having at least one gear 64, the at least one gear being engageable with at least one gear 66 of a gear assembly disposed in the brake assembly for operating the gear assembly in a direction which will cause an application of the at least one brake means, a source of fluid pressure 74 connected to the operating means for periodically supplying a predetermined pressure to the operating means at least sufficient to cause such application of the at least one brake means, a means 84 connected to the source of fluid pressure for initiating a supply of the predetermined pressure to the operating means thereby causing an automatic application of the at least one brake means by the brake assembly, and a timing means 82 connected intermediate the operating means and the source of fluid pressure for controlling the predetermined pressure being periodically supplied to the operating means, but does not disclose the limitation of the apparatus being engageable specifically with a hand brake

assembly and does not disclose that at least one gear of the gear assembly is disposed in a housing member of the hand brake assembly. Wright teaches in figures 1 and 2 an apparatus 26,84 engageable with a hand brake assembly 10,16 and teaches the limitation of at least one gear of the gear assembly 32 being disposed in a housing member 24 of the hand brake assembly 10,16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Barefoot to have been engageable with a hand brake assembly, as taught by Wright, in order to provide a means of enabling emergency braking to supplement the service braking. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one gear of the gear assembly of Barefoot to have been disposed in a housing member of the hand brake assembly, as taught by Wright, in order to provide a means of shielding the gear from debris.

Re: claims 4 and 5. Barefoot shows in figure 7 the limitation wherein the operating means includes at least one valve means 78,80 for connecting the source of fluid pressure to the operating means."

Applicant must disagree with the Examiner's interpretation of Barefoot. Barefoot teaches a hydraulic braking system for a rail car. The gears in the braking system of Barefoot apply a braking force to the axle for slowing or stopping the rail car. This is significantly different from a hand brake or a parking brake as is found in the present invention. As Barefoot states

in his objectives, "It is another object of the present invention to provide a hydraulic braking system for a rail car." and "Another object of the present invention is to provide a braking system that prevents the train from bunching and stretching when the brakes are applied." (column 3, lines 35-39). And further, Barefoot states, "The present invention generally relates to a braking system for a rail car and to a process for applying a braking force to a rail car. Unlike prior art constructions, the braking system of the present invention utilizes hydraulics as opposed to pneumatics for applying the braking force. Specifically, the braking system of the present invention includes a hydraulic pump or motor mounted to the rail car axle and/or wheel assembly. A hydraulic circulation loop circulates a hydraulic fluid to a reservoir and then back to the pump." (Column 5, lines 22-31).

Hand brakes or parking brakes, on the other hand, are applied after the rail car has stopped and are used to prevent movement of the car from the stopped position. These brakes are manually applied, or with respect to the present invention are applied when an operator presses a button to energize the fluid system to rotate the chain to lock the gears so the car cannot move. The parking brake is usually applied to a car that has been removed from a train consist. Hand brakes are not connected to the wheel but to the rigging. The gears in the brake system of Barefoot connect directly to the axle to apply a braking force to the axle of the rail car.

As stated in the objects of the present invention, "Another object of the present invention is to provide an apparatus engageable with a hand brake assembly which automatically activates and applies the brakes on a railway vehicle which eliminates the need of an operator to manually wind the chain on such hand brake.

Yet another object of the present invention is to provide an apparatus engageable with a hand brake assembly which will significantly reduce the time and effort required by an operator to apply such hand brake by virtue of the fact that the means used to initiate an application of the hand brake is rather simple and relatively easy to use." (Page 7, lines 1-11).

The braking system as taught by Barefoot is for a completely different system and operates in a completely different manner than the hand brake of the present invention. The system of Barefoot is for slowing and stopping a moving rail car or cars, while the hand brake, such as that of the present invention, is used for cars that are already stopped.

The secondary reference of Wright could not be applied to the Braking system of Barefoot without a complete modification which would completely alter the invention of Barefoot so that it would be inoperable for the purpose of his invention. Further the Wright brake control apparatus is designed for automobile applications which are quite different than those of railway applications.

Since Barefoot was the primary reference used in the rejection of claims 1,4,5,14, and 15 and since the invention of Barefoot is for a completely different brake to that of the present invention, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1,4, 5, 14, and 15 under 35 U.S.C. 103(a) as being unpatentable over US Patent 5566795 to Barefoot in view of US Patent 3937295 to Wright.

The Examiner then rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 4978178 to Engle. The Examiner stated,

"Engle' 178 teaches in figure 1 the use of an overload protection means 15 connected to operating means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Barefoot, as modified, to have included an overload protection means, as taught by Engle, in order to prevent the occurrence of excessive brake application forces."

Applicant has discussed previously that the combination of Barefoot and Wright cannot be used to provide a hand brake and the addition of Engle does not alter that fact. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 4978178 to Engle.

The Examiner rejected claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 5884985 to Ganzel et al. The Examiner stated,

"Ganzel et al. teach in col. 3 lines 31-33 the use of a plurality of hydraulic valves with venting means connecting the source of fluid pressure to the operating means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valves of Barefoot, as modified, to have included venting means, as taught by Ganzel et al., in order to provide an exhaust means to relieve pressure build up in the valves."

The Examiner rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright and US Patent 5884985 to Ganzel et al. as applied to claim 7, and further in view of US Patent 4934214 to Cite. The Examiner stated,

"Barefoot, as modified, shows a motor 60, but does not disclose the specific makeup of the motor. Otte teaches in figure 1 the use of motor 100 including a piston member 9 connected via duct 2 to a source of fluid pressure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the motor of Barefoot, as modified, to have included a piston member, as taught by Cite, in order to provide a means to actuate the motor and consequently the connecting gear assembly."

Further in the office action the Examiner rejected claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 5813731 to Newman, II et al. To support the rejection the Examiner stated,

"Newman, II et al. teach in figure 4 the use of a push button 250 as a manual means of brake application. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pressure initiating means of the apparatus Barefoot, to have included a push button, as taught by Newman, II et al., in order to provide a manual means of initiating the supply of pressure."

Applicant has stated previously that, "The system of Barefoot is for slowing and stopping a moving rail car or cars, while the hand brake is used for cars that are already stopped. The secondary reference of Wright could not be applied to the Braking system of Barefoot without a complete modification which would completely alter Barefoot so that it would be inoperable for the purpose of his invention. Further the Wright brake control apparatus is designed for automobile applications which are quite different from railway applications." Since Barefoot is the primary reference and Wright the secondary reference on the above rejections the same argument applies to these rejections. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent

3937295 to Wright as applied to claim 1 and further in view of US Patent 5884985 to Ganzel et al.; the rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright and US Patent 5884985 to Ganzel et al. as applied to claim 7, and further in view of US Patent 4934214 to Cite.; and the rejection of claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 5813731 to Newman, II et al.

The Examiner rejected claim 16 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of Wright and Engle as applied to claim 3 above, and further in view of WIPO 98/28174 (Corresponding to U.S. Patent 6186602 to Jonner et al. for column and line numbers).

The Examiner stated, "WIPO 98/28174 teaches the use of an overload protection means in the form of a pressure regulating means in col. 1 lines 55-56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the overload protection means of Barefoot, as modified, to have included a pressure regulating means, as taught by WIPO 98/28174, in order to provide a means of preventing the occurrence of excessive brake application forces."

The Examiner then rejected claim 17 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 3782785 to Budzich. The Examiner stated, "Budzich teaches the use



of a slip clutch to serve as an overload protection means in lines 12-14 of the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Barefoot to have included a slip clutch, as taught by Budzich, in order to provide a means of preventing the occurrence of excessive brake application forces."

The Examiner rejected claims 18, 26, and 27 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178.

The Examiner stated, "Barefoot shows in figure 1,4,and 7 an apparatus engageable with a brake assembly for automatically applying at least one brake means secured to a railway vehicle with the brake assembly, the apparatus comprising: an operating means 60,62,64,76,72,78,80 having at least one gear 64, the at least one gear being engageable with at least one gear 66 of a gear assembly disposed in the brake assembly for operating the gear assembly in a direction which will cause an application of the at least one brake means, a source of fluid pressure 74 connected to the operating means for periodically supplying a predetermined pressure to the operating means at least sufficient to cause such application of the at least one brake means, a means 84 connected to the source of fluid pressure for initiating a supply of the predetermined pressure to the operating means thereby causing an automatic application of the at least one brake means by the brake assembly, and a timing means 82 connected intermediate the operating means and the source of

fluid pressure for controlling the predetermined pressure being periodically supplied to the operating means, but does not disclose the limitation of the apparatus being engageable specifically with a hand brake assembly, does not disclose that at least one gear of the gear assembly is disposed in a housing member of the hand brake assembly, and does not disclose the limitation of an overload protection means connected to one of the source of fluid pressure and the operating means.

Wright teaches in figures 1 and 2 an apparatus 26,84 engageable with a hand brake assembly 10,16 and teaches the limitation of at least one gear of the gear assembly 32 being disposed in a housing member 24 of the hand brake assembly 10,16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Barefoot to have been engageable with a hand brake assembly, as taught by Wright, in order to provide a means of enabling emergency braking to supplement the service braking. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one gear of the gear assembly of Barefoot to have been disposed in a housing member of the hand brake assembly, as taught by Wright, in order to provide a means of shielding the gear from debris.

Engle '178 teaches in figure 1 the use of an overload protection means 15 connected to the operating means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of

Barefoot, as modified, to have included an overload protection means, as taught by Engle, in order to prevent the occurrence of excessive brake application forces."

The Examiner rejected claims 19, 20, and 21 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18, and further in view of Ganzel et al. and Otte. The Examiner stated, "Barefoot shows in figure 7 the use of at least one valve means 78,80 connecting the source of fluid pressure to the operating means. Ganzel et al. teach in col. 3 lines 31-33 the use of a plurality of hydraulic valves with venting means connecting the source of fluid pressure to the operating means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valves of Barefoot, as modified, to have included venting means, as taught by Ganzel et al., in order to provide an exhaust means to relieve pressure build up in the valves. Barefoot, as modified, shows a motor 60, but does not disclose the specific makeup of the motor. Otte teaches in figure 1 the use of motor 100 including a piston member 9 connected via duct 2 to a source of fluid pressure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the motor of Barefoot, as modified, to have included a piston member, as taught by Otte, in order to provide a means to actuate the motor and consequently the connecting gear assembly."

The Examiner rejected claims 23 and 24 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of Kanjo et al. '363. The Examiner stated,

"Re: claim 23. In lines 9-11 of the abstract Kanjo et al. '363 teach the use of pneumatic source of fluid pressure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus and a hand brake assembly of Barefoot, as modified, to have included a pneumatic source of fluid pressure, as taught by Kanjo et al. '363, in order to provide an alternate source of driving the brake application.

Re: claim 24. Kanjo et al. '363 teach in figure 21 the use of a timing means in the form of a reservoir and a choke valve 311, 326 connected intermediate the operating means and source of fluid pressure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the timing means of Barefoot to have been constructed in the form of a reservoir and a choke valve as taught by Kanjo et al. in order to provide an alternate means of controlling pressure being supplied to the operating means."

The Examiner rejected claim 25 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of Newman, II et al. The Examiner stated,

"Newman, II et al. teach in figure 4 the use of a push button 250 as a manual means of brake application. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pressure initiating means of the apparatus Barefoot, to have included a push button, as taught by Newman, II et al., in order to provide a manual means of initiating the supply of pressure.'

The Examiner rejected claim 28 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of WIPO 98/28174 (Corresponding to U.S. Patent 6186602 to Jonner et al. for column and line numbers). The Examiner stated,

"WIPO 98/28174 teaches the use of an overload protection means in the form of a pressure regulating means in col. 1 lines 55- 56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the overload protection means of Barefoot, as modified, to have included a pressure regulating means, as taught by WIPO 98/28174, in order to provide a means of preventing the occurrence of excessive brake application forces."

The Examiner also rejected claim 28 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of Budzich. The Examiner stated,

"Budzich teaches the use of a slip clutch to serve as an overload protection means in lines 12-14 of the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Barefoot to have included a slip clutch, as taught by Budzich, in order to provide a means of preventing the occurrence of excessive brake application forces."

Since Barefoot is the primary reference and Wright the secondary reference on all of the above rejections the same argument applies to these rejections as was discussed previously and the addition of third, fourth and even fifth references does not alter the fact that the primary references are not compatible.

Applicant has stated previously that,

"The system of Barefoot is for slowing and stopping a moving rail car or cars, while the hand brake is used for cars that are already stopped.

The secondary reference of Wright could not be applied to the Braking system of Barefoot without a complete modification which would completely alter Barefoot so that it would be inoperable for the purpose of his invention. Further the Wright brake control apparatus is designed for automobile applications which are quite different from railway applications."

Barefoot's brake system is applied to a moving rail car, hand brakes or parking brakes, on the other hand, are applied after the rail car has stopped and are used to prevent movement

of the car from the stopped position. These brakes are manually applied, or with respect to the present invention are applied when an operator presses a button to energize the fluid system to rotate the chain to lock the gears so the car cannot move. The parking brake is usually applied to a car that has been removed from a train consist. Hand brakes are not connected to the wheel or axle as is the brake of Barefoot but to the rigging. The gears in the brake system of Barefoot connect directly to the axle to apply a braking force to the axle of the rail car.

Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claim 16 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of Wright and Engle as applied to claim 3 above, and further in view of WIPO 98/28174 (Corresponding to U.S. Patent 6186602 to Jonner et al. for column and line numbers); the rejection of claim 17 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright as applied to claim 1 and further in view of US Patent 3782785 to Budzich; the rejection of claims 18, 26, and 27 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178; the rejection of claims 19, 20, and 21 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18, and further in view of Ganzel et al. and Otte; the rejection of claims 23 and 24 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as

applied to claim 18 above, and further in view of Kanjo et al '363; the rejection of claim 25 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of Newman, II et al; the rejection of claim 28 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of WIPO 98/28174 (Corresponding to U.S. Patent 6186602 to Jonner et al. for column and line numbers); the rejection of claim 28 under 35 U.S.C. 103(a) as being unpatentable over Barefoot in view of US Patent 3937295 to Wright in view of Engle '178 as applied to claim 18 above, and further in view of Budzich.

The Examiner rejected claim 30 under 35 U.S.C. 103(a) as being unpatentable over US Patent 3937295 to Wright in view of Engle '178. The Examiner stated,

"Wright shows in figures 1 and 2 an electrically operated apparatus 26,84,32,30 engageable with a hand brake assembly 24,42,62,68,16 for automatically electrically applying at least one brake means 18 secured to a vehicle with the hand brake assembly, the electrically operated apparatus comprising:

(a) a motor means 26 having a rotatable shaft 30 carrying a gear member or superficial teeth or threads thereon, the gear member engageable with at least one gear 42 of a gear assembly disposed in a housing member 24 of the hand brake assembly for operating the gear assembly in a direction which will cause an application



of the at least one brake means; and (b) a means 84 connected to the motor for starting the motor and thereby initiating an automatic electrical application of the at least one brake means by the hand brake assembly, but does not disclose that the vehicle is specifically a railway vehicle. Engle teaches the use of an apparatus engageable with a hand brake assembly particularly of a railway vehicle in col. 1 lines 8-9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vehicle of Wright to have included a railway vehicle, as taught by Engle, in order to provide a means of automatically decelerating a railway vehicle. (Examiner notes that the Dictionary of Mechanical Engineering, 3rd Edition, 1985 defines a gear as 'any mechanical system for transmitting motion')."

As discussed previously, the brake control apparatus described by Wright engages the park brake of a vehicle; however, the vehicle is an automobile or a trailer. As stated by Wright, "The brake control apparatus 10 is constructed to be installed as an accessory operating in cooperation with the existing park brake of a wheeled vehicle such as an automobile or trailer or the like or, in one preferred form, to be installed as original equipment of such wheeled vehicles." (Column 2, lines 16-21). This is quite different from a hand brake of a railroad car and the two applications are not compatible.

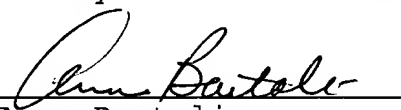
Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claim 30 under 35 U.S.C. 103(a) as

being unpatentable over US Patent 3937295 to Wright in view of Engle '178.

In view of the discussion supra, it is believed that the invention as described in claims 1 and 3-30 is patentable and that this application is now in condition for allowance and such allowance by the Examiner is respectfully requested.

In the event the Examiner has further difficulties with the examination and/or allowance of the application, the Examiner is invited to contact the undersigned agent for applicant by telephone at (412) 380-0725, if necessary, to resolve any remaining questions or issues by interview and/or Examiner's Amendment as to any matter.

Respectfully submitted,  
James Ray and Associates

By   
Amos Bartoli  
Registration No. 42,299  
Agent for Applicant

JAMES RAY & ASSOCIATES  
2640 Pitcairn Road  
Monroeville, PA 15146  
Tel. (412) 380-0725  
Fax (412) 380-0748